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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,597	07/02/2001	Charles Love	440431	9284
23548	7590	03/10/2004	EXAMINER	
LEYDIG VOIT & MAYER, LTD 700 THIRTEENTH ST. NW SUITE 300 WASHINGTON, DC 20005-3960			MENON, KRISHNAN S	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary	Application No. 09/763,597	Applicant(s) LOVE ET AL.	
	Examiner Krishnan S Menon	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 8-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claims 1-5 and 8-13 are pending.

Specification

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Applicant is required to amend the application to include on top of page 1 of the specification:

"This application is a 371 of PCT/US99/19153 filed 08/24/1999 and claims the benefit of priority date from US provisional application 60/097,687"

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 2 and 3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP (03 162503).

JP(503) discloses a cylindrical porous medium (figure) having two portions of different axial dimensions, one being greater than the other, and the two portions have predetermined porosity. It has two portions – one body portion, and one end portion, and both portions together forming a unitary construction.

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2. Claim 8 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Takahar (US 5,417,917).

Takahar (917) discloses a porous medium having a mass of sintered inorganic particles having porosity greater than 70% (abstract, tables 14 and claim 1. Takahar claims >50% porosity. >70% is greater than 50%)

3. Claim 11 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by FR (2 726 498 A3).

FR(498) discloses a molding apparatus for a ceramic cup with a cavity arranged to contain a slurry with a first die to press a first portion of the slurry in the cavity and then a second die to press the second portion of the slurry in the cavity (see Figures of FR(498) and the DERWENT summary) and provide the first and second portions with predetermined densities.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakano (US 5,660,863) in view of Takahar (917).

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Nakano (863) discloses a method of making and a porous element formed by pressure molding a slurry containing inorganic particles (col 3: 45-55), providing a slurry to a porous substrate and sintering to bond (col 4: 15-25). The element has a unitary body, with a porous substrate (fiber filling) with the particles disposed within the substrate and mechanically interlocking by sintering (example 1). The slurry includes a liquid, with plurality of inorganic particles of nominal dimensions (example 1), with separating the liquids at least partially by pressure. The porous medium has two interspersed regions, one provided by the fibers and the other by the particles, one medium larger than the other, and they are bonded together by a plurality of bonds (example 1.) as in claim 10. Nakano (863) also discloses a method of forming a mixture including a liquid medium with a plurality of inorganic particles having a first size, and a plurality of second particles (fibers) having a second size, one size larger than the other, sinter-bonding them together, as in claim 9 of the instant application.

Nakano does not teach the method for making porous medium of >50% porosity as in the instant claims. Takahar teaches making porous media with >50% porosity (see abstract, tables). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Takahar in the method of making sintered medium of Nakano to make porous sintered medium for use as filters as taught by Takahar (see col 1 lines 13-19).

5. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP, (03 162503) in view of Johnson et al (US 5,401,406).

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JP (503) teaches the limitations of claims 2 and 3. Claims 12 and 13 add further limitations of a hat shaped porous medium, wherein the different regions of the medium have substantially similar porosities. JP does not teach a hat shaped medium. Johnson teaches a hat shaped ceramic medium (4-fig 2, col 1 lines 25-38). It would be obvious to one of ordinary skill in the art at the time of invention to have the porous medium taught by JP (503) in the shape of a hat as taught by Johnson for use as candle filters for filtration applications as taught by Johnson.

Response to Arguments

Applicant's argument re claims 2 and 3: The Japanese ref (503) teaches a porous body of unitary construction, having a predetermined porosity (or density), and of two parts of different axial dimensions as claimed in the instant application. The claims are for porous mediums but they do not recite the porosity or any other (structural) characteristic of the porous media other than stating that each portion has a predetermined porosity. The ref teaches a sintered ceramic medium, which is inherently porous. Applicant's argument on how they are made is irrelevant, unless the claim ties the method of making to a specific characteristic which otherwise would not be attainable. ["[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art,

the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).]

Applicant’s argument re claim 8: Takahar reference teaches porosity greater than 50% as indicated in the rejection, and claims porosity >50%. Takahar’s statement of ‘...porosity of up to 64% demonstrated..’ in the abstract does not preclude him from claiming porosity greater than 70%, and his claim of >50% includes porosities greater than 70%. Takahar does not disclose that porosity >70% is unattainable, and does not teach away from porosity >70%. Table 14 of Takahar has 69.6% porosity, showing that he is not shying away from high porosity.

Applicant’s argument re claim 11: The French patent discloses a mold apparatus that utilizes two compression operations, and two dies. The two dies (6) and (8) press the bottom (the first portion), the bowl and the handle (second portion) are pressed by the *isostatic compression* of the elastomer membrane (4). Thus the bottom is separately pressed by the two dies; bowl and handle are separately pressed isostatically by the elastomer membrane (another die; the total number of dies can be any since the claim is open-ended). The claim is for a mold apparatus. The applicant’s argument about the predetermined density is the characteristic of the slurry, and one cannot differentiate this by looking at the mold apparatus. [“Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim.” *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, “[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*,

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75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)).]

Applicant's arguments re Nakano reference that "the central teaching of Nakano is that a slurry is packed densely in the interstices between individual fibers of a fibrous perform in order to create structure having a very small pore content, eg, 15% in porosity" : It may please be noted that the central teaching if Nakano is about filling the three-dimensional fibrous perform completely and without leaving voids, as explained in the lines 45-59 of col 1. The porosity of the resulting fiber-reinforced ceramic will depend on the amount of additives in the slurry that would thermally decompose on firing. While Nakano teaches a densely packed ceramic body, his disclosure clearly teaches ways of controlling porosity to the desired level by adjusting the compositions of the sintering and dispersing auxiliaries (see col 2 lines 1-5 and col 3 lines 1-3). Nakano teaches controlling porosity in col 1 line 60 – col 2 line 10. One could follow these teaching to increase the porosity as well. Secondary reference Takahar provides the composition for obtaining porosity >50%. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one of ordinary skill would use the teaching of Nakano to make

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porous sintered objects of porosity greater than 50% as taught by Takahar, because Nakano teaches how to make the ceramic reinforced body with uniformity; Takahar teaches how to obtain high porosity.

Conclusion

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon
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